



# VRV IV 360° efficiency



VRV IV heat recovery, heat pump, replacement and water cooled

Our new VRV IV heat recovery systems set pioneering standards in all-round climate comfort performance. Total design simplicity, offering rapid installation, full flexibility as well as absolute efficiency and comfort. Find out about all these revolutionary changes at www.daikineurope.com/vrviv

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VRV IV

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# VRV IV =

# 3 revolutionary standards

- > Variable refrigerant temperature
- > Continuous comfort during defrost
- > VRV configurator

# + VRV IV technologies

- + Integrated climate control
- + VRV IV heat recovery technologies

# 3 intelligent efficiency improvements

#### Improved operational efficiency

- > Improved efficiency during heat recovery mode with 15%
- Free heating or hot water by recovering heat from areas requiring cooling
- Optimal comfort for everybody by simultaneous cooling spaces while heating others

#### Improved design efficiency

- Integrated climate control covering all thermal loads in the building
- Free combination of outdoor units, single and multi BS boxes
- > Unique range of single and multi BS boxes

#### Improved installation efficiency

- Fully redesigned multi BS boxes, smaller and up to 70% lighter
- > No limit on number of unused ports
- Connect indoor units up to 28kW to a single and multi BS box

# Variable refrigerant temperature



## Customise your VRV for best seasonal efficiency and comfort

Thanks to its revolutionary variable refrigerant temperatue technology (VRT), VRV IV continuously adjusts both the inverter compressor speed and the refrigerant temperature, providing the necessary capacity to meet the building load with the highest seasonal efficiency at all times!

- > Seasonal efficiency increased by 28%
- > The first weather compensating control on the market
- Customer comfort is assured thanks to higher outblow temperatures (preventing cold draughts)

# How does it work?

#### **VRF** standard

Capacity is controlled only with the variance of the inverter compressor

#### Daikin VRV IV

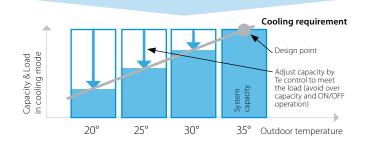
Variable Refrigerant Temperature control for energy saving in partial load condition.

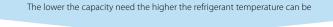
The capacity is controlled by the inverter compressor AND variation of the evaporating (Te) and condensing (Tc) temperature of the refrigerant in order to achieve the highest seasonal efficiency.

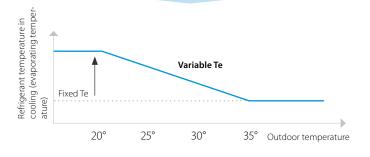


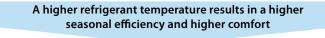
Calculate the benefit of variable refrigerant temperature for your project in our seasonal solutions calculator:

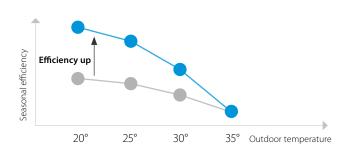
http://extranet.daikineurope.com/en/software/ downloads/solutions-seasonal-simulator/default.jsp The colder it gets, the lower the load on the building and the lower the capacity need











## Success story

#### Live test: up to 46% less energy consumed

A field trial was carried out at a fashion store chain in Germany and showed that the innovative Daikin VRV IV delivers dramatically better energy efficiency compared with previous models.

The trial results showed that the new VRV IV system consumed up to 60% less energy than the VRV III system, particularly during cooling. Overall energy savings during heating averaged 20%.

# How effective is the VRV IV heat pump technology?

The trial demonstrated that by using air, an infinitely renewable and free energy source, the VRV IV system provides a complete and environmentally sustainable solution for heating, cooling and ventilation in commercial applications. The trial also showed that only by monitoring climate control systems carefully and intelligently businesses can identify and control energy waste. This is a service which Daikin also offers.

## Different modes to maximise efficiency and comfort

For maximum energy efficiency and customer satisfaction, the outdoor unit needs to adapt the evaporating/condensing temperature at the optimum point for the application.

# How to set the different modes?

Set up the main operation mode



Define how the system reacts

Check on You Tube https://www.youtube.com/ DaikinEurope

of the system	to changing loads
Step 1	Step 2
Automatic* Quick reaction speed Top efficiency	Powerful
	Quick
The perfect balance: Achieves top efficiency throughout the year, reacts quickly on the hottest days	Mild *
High sensible (User selection)	Powerful
Quick reaction speed Top efficiency	Quick
	Mild
Year round top efficiency	Есо
Basic Current VRF standard	No submodes
ж Г	I

\* Factory setting

	VRV III 20HP (2 modules)	VRV IV 18HP (1 module)
Period	March 2012 - February 2013	March 2013 - February 2014
Avg (kWh/Month)	2.797	1.502
Total (KWh)	33.562	18.023
Total (€)	6.041	3.244
Yearly (operation cost/m <sup>2</sup> (€/m <sup>2</sup> )	9,9	5,3
	46% savinc	is — € 2 797

# 6 Patents

Where a quick increase of load is expected such as conference rooms. Quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
Same as above but slower response than the powerful mode.
This mode would be suitable for most office applications and it is the factory set mode. The perfect balance: Slower reaction speed with top efficiency
Gives customer choice for fixing coil temperature which avoids cold draughts. A quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
Same as above but slower response.
The air off temperature remains fairly constant. Suitable for low ceiling rooms.
Coil temperature would not change due to fluctuating load. Suitable for computer rooms. Suitable for low ceiling rooms.
This is how most other VRF systems work and can be used for all general type of applications. Suitable for computer rooms.

Suitable for low ceiling rooms.

## Measured data

#### Fashion store Unterhaching (Germany)

- > Floor space: 607m<sup>2</sup>
- > Energy cost: 0,18 €/kWh
- > System taken into account for consumption:
- VRV IV heat pump with continuous heating
- Round flow cassettes (without auto cleaning panel)
- VAM for ventilation (2x VAM2000)
- Biddle Air curtain.



# Continuous heating during defrost mode

#### Pure comfort

VRV IV continues to provide heating even when in defrost mode, providing an answer to any perceived disadvantages of specifying a heat pump as a monovalent heating system.

- Indoor comfort not affected either via the unique heat accumulating element or alternate defrost
   The best alternative to traditional
- heating systems

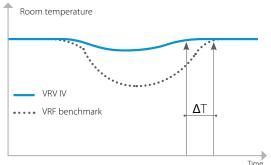
Heat pumps are known for their high energy efficiency in heating, but they accumulate ice during heating operation and this must be melted periodically using a defrost function that reverses the refrigeration cycle. This causes a temporary temperature drop and reduced comfort levels inside the building.

Defrosting can take over 10 minutes (depending on the size of the system) and occurs mostly between -7 and  $+7^{\circ}$ C when there is most moisture in the air, which freezes to the coil, and this has a significant impact on the perceived indoor comfort levels and runningcosts.

The VRV IV has changed the heating paradigm by providing heat even during defrost operation thus eliminating the temperature drop inside and providing comfort at all times.









#### How does it work?

#### Heat accumulating element

For the VRV IV heat pump single models a unique heat-accumulating element is used. This element, based upon phase change materials, provides the energy to defrost the outdoor unit. The energy needed for defrosting is stored in the element during normal heating operation.

#### Alternate defrost

On all our multi model combinations only 1 outdoor coil is defrosted at a time, ensuring continuous comfort during the whole process.

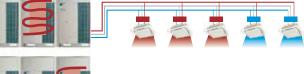
The outdoor unit coil is defrosted ...

... with the energy stored in the heat accumulating element ...

... while indoors a comfortable temperature is maintained.









the outdoor unit coil is defrosted ...

... one at the time ...

... so indoors a comfortable temperature is maintained

Software for simplified commissioning, configuration and customisation

DAIKIN

DAIKIN

VRV

# VRV configurator software

> Graphical interface

- > Manage systems over multiple sites in exactly the same way
- > Retrieve initial settings

#### Simplified commissioning Simplified servicing

The VRV configurator is an advanced software solution that allows for easy system configuration and commissioning.

- > Less time is required on the roof to configure the outdoor unit
- > Multiple systems at different sites can be managed in exactly the same way, providing simplified commissioning for key accounts
- > Initial settings on the outdoor unit can be easily retrieved

The user-friendly display for outdoor units simplifies basic servicing tasks.

- > Easy-to-read error report
- > Easy-to-understand menu indicates quick and easy on-site settings
- > Easy-to-follow parameters for checking basic functions: high pressure, low pressure, frequency and operation time, compressor history, temperature of discharge/suction pipe.





User-friendly interface instead of push buttons



3-digit 7-segment display



# Unique VRV IV core technologies



# Newly developed compressor

#### Full inverter

- Enabling variable refrigerant temperature and low start-up currents
- Stepless capacity control

#### Reluctance brushless DC motor

- increased efficiency compared to AC motors by simultaneously using normal and reluctance torque
- Powerful neodymium magnets efficiently generate high torque
- > High-pressure oil reduces thrust losses

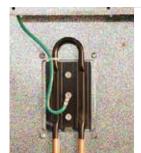


#### High efficiency J-type 6-pole motor

 > 50% stronger magnetic field and higher rotation efficiency

#### Thixocasting process

 Compression volume is increased by 50% thanks to a new high-durability material cast in a semimolten state



#### Refrigerant-cooled PCB

- Reliable cooling because it is not influenced by ambient air temperature
- Smaller switchbox for smoother air flow through the heat exchanger increasing heat exchange efficiency with 5%

4-sided, 3-row heat

Heat exchange surface up to 50% larger
 (up to 235m<sup>2</sup>), leading to 30% more

exchanger

efficiency





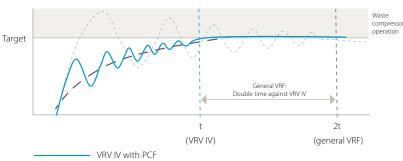


#### UNIQUE

## Predictive Control Function (PCF)

- > Reaches the target capacity/refrigerant temperature faster
- > Reaches the target without overshooting, so there is no waste, leading to improved efficiency
- > Three capacity settings give more precise control for user comfort

The large number of Daikin systems already in operation and which are monitored by our i-Net software put us in the unique position of being able to analyse this data and develop the predictive compressor control function.



----- General VRF with PI control

Target capacity/refrigerant temperature

#### VRV IV: PCF

Compressor works with predictive data for the control

> result: quick convergence to the target temperature and reduction of waste operation of the compressor

General VRF: Pi control

Compressor works with feedback only for the control

> result: waste operation and longer time before reaching target set point

# DC fan motor

### UNIQUE

#### Outer rotor DC motor for higher efficiency

- > Larger rotor diameter results in greater force for the same magnetic field, leading to better efficiency
- > Better control, resulting in more fan steps to match the actual capacity

#### Sine wave DC inverter

Optimizing the sine wave curve results in smoother motor rotation and improved motor efficiency.

#### DC fan motor

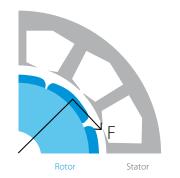
The use of a DC fan motor offers substantial improvements in operating efficiency compared to conventional AC motors, especially during low speed rotation.

# E-Pass heat exchanger

Optimising the heat exchanger's path layout prevents heat being transferred from the overheated gas section to the sub-cooled liquid section which is a more efficient way to use the heat exchanger.

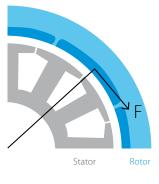
# I-demand function

Limit maximum power consumption. The newly introduced current sensor minimizes the difference between the actual power consumption and the predefined power consumption.



Conventional motor with inner rotor

Daikin outer rotor



Half time

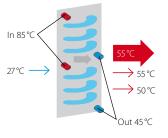
against

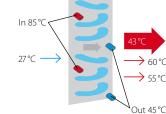
general

VRF

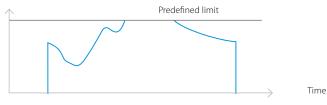












# The total solution





Typically, many buildings today rely on several separate systems for heating, cooling, air curtain heating and hot water. As a result energy is wasted. To provide a much more efficient alternative, VRV technology has been developed into a total solution managing up to 70% of a buildings energy consumption giving large potential to cost saving.

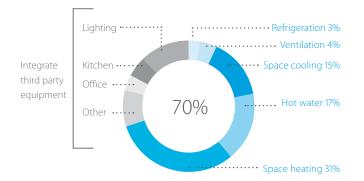
> Heating and cooling for year round comfort

Hot water
 for efficient production of hot water

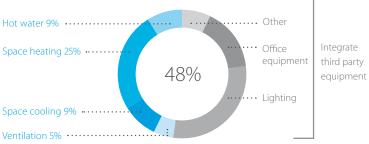
- > **Underfloor heating /cooling** for efficient space heating/cooling
- Ventilation
   for high quality environments
- Air curtains for optimum air separation
- Controls for maximum operating efficiency

## Combine up to 70% of your building's energy consumption

#### Average hotel energy consumption



#### Average office energy consumption





# One system,

multiple applications for hotels, offices, retail, home ...

#### Heating and cooling



- Combine VRV indoor units with other stylish indoor units in one system
- New round flow cassette sets the standard for efficiency and comfort

#### Low-temperature hydrobox





- Mini BMS with connects Daikin and third-party equipment
- Integrate intelligent control solutions with energy management tools to reduce running costs

#### Biddle air curtain



- > Highly efficient space heating through:
  - Underfloor heating
  - Low temperature radiators
- Heat pump convector
- $\,$  > Hot water from 25 °C to 45 °C

#### High temperature hydrobox<sup>\*</sup>



\*only for connection to VRV heat recovery

- > efficient hot water production for:
- Showers
- Sinks
- Tapwater for cleaning
- > Hot water from 25 °C to 80 °C

- Payback time less than 1 year
- compared to electrical air curtain
- › A highly efficient solution for
- doorway climate separation

#### Ventilation



 > Widest range in DX ventilation – from small heat recovery ventilation to large scale air handling units
 > Provides a fresh, healthy and comfortable

environment

# VRV IV heat recovery Best efficiency and comfort solution

# "Free" heat and hot water production

Until now, most commercial buildings have relied on separate systems for cooling, heating, hot water and so on, which results in a lot of wasted energy.

An integrated heat recovery system reuses heat from offices, server rooms, to warm other areas or create hot water.

## Maximum comfort

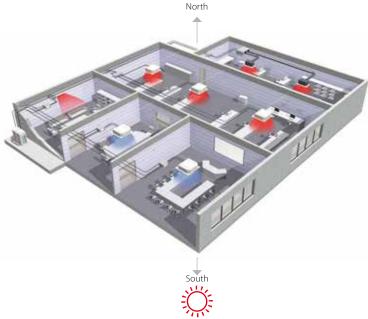
A VRV heat-recovery system allows simultaneous cooling and heating.

- > For hotel owners, this means a perfect environment for guests as they can freely choose between cooling or heating.
- > For offices, it means a perfect working indoor climate for both north and south-facing offices.











# Improved efficiency

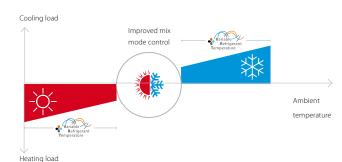
In heat-recovery operation the VRV IV is up to 15% more efficient. In full-load operation the seasonal efficiency is even as much as 28% more efficient than the VRV III thanks to variable refrigerant temperature.

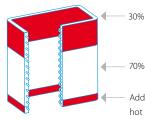
# Optimised Partition of Heat Exchanger for highest seasonal efficiency in heat recovery mode

Vertically divided heat exchanger with an optimized ratio for mix mode operation. This improves heat recovery efficiency by reducing radiation losses.

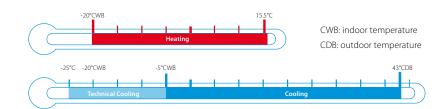
# Wide heating operation range

VRV IV heat recovery has a standard operation range down to -20°C in heating. It can also provide cooling down to -20°C for technical server rooms (field setting).





Additionally the bottom of the heat exchanger is continuously hot in heating operation preventing frost accumulation





# Advantages of 3-pipe technology

## More "free" heat

Daikin 3-pipe technology needs less energy to recover heat, meaning significantly higher efficiency during heat recovery mode. Our system can recover heat at a low condensing temperature because it has dedicated gas, liquid and discharge pipes.

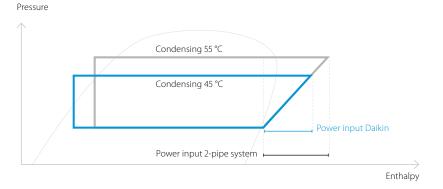
In a 2-pipe system, gas and liquid travel as a mixture so the condensing temperature needs to be higher in order to separate the mixed gas and liquid refrigerant. The higher condensing temperature means more energy is used to recover heat resulting in lower efficiency.

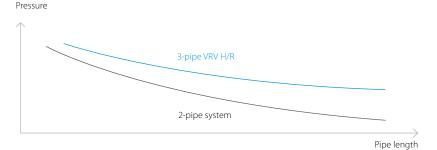
## Lower pressure drop means more efficiency

- Smooth refrigerant flow in 3-pipe system thanks to
   2 smaller gas pipes results in higher energy efficiency
- Disturbed refrigerant flow in large gas pipe on 2-pipe system results in bigger pressure drop

# Freely combine outdoor units

Combine outdoor units flexibly to reduce your carbon footprint, optimise your system for continuous heating, and achieve the highest efficiency.





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# Fully redesigned BS boxes

# Maximum design flexibility and installation speed

- > Quickly and flexibly design your system with a unique range of single and multi BS boxes.
- > A wide variety of compact and lightweight multi BS boxes greatly reduces installation time.
- > Free combination of single and multi BS boxes

#### Single port

- > Unique to the market
- Compact and light to install
- > No drain piping needed
- > Ideal for remote rooms
- > Technical cooling function
- > Connect up to 250 class unit (28 kW)
- > Allows multi-tenant applications

#### Multi port: 4 - 6 - 8 - 10 - 12 - 16

- > Up to 55% smaller and 41% lighter than previous range
- Faster installation thanks to a reduced number of brazing points and wiring
- All indoor units connectable to one BS box
- > Fewer inspection ports needed
- > Up to 16 kW capacity available per port
- Connect up to 250 class unit (28kW) by combining 2 ports
- > No limit on unused ports, permitting phased installation

#### Faster installation thanks to open connection

 No need to cut the pipe before brazing – for indoor units smaller or equal to 5.6 kW (50 class)



# Maximum comfort at all times

With the VRV BS box, any indoor unit not being used to switch between heating and cooling maintains the constant desired temperature. This is because our heat recovery system does not need to equalise pressure over the entire system after a change-over.







BS 6, 8 O14 A

BS 4 Q14 A



BS 10, 12 Q14 A

> Cut and braze the pipe – for indoor





# What does a VRV IV installation mean to you?

See how you can profit from Daikin's highly flexible and efficient product range.

#### Consultants

Daikin's VRV IV technology maximises flexibility and leads the way in customisation to match individual building requirements in comfort and energy, with reduces running costs.

- Ecological design meets and exceeds legal requirements
- > Ideal for reaching top BREEAM/EPDB/LEED levels
- > No more cold draughts with higher evaporation temperatures up to 11 °C or 16 °C , thanks to variable refrigerant temperature
- Unique specifications for monovalent heating , thanks to continuous heating
- > Maximum flexibility to meet customer requirements
- > Advanced software tools assist with system design

## Building owners

VRV IV is the ultimate in customised comfort and intelligent control tailored to your individual needs and to maximise energy efficiency. Annual cost savings up to 28% (compared to VRV III).

- > Annual cost savings up to 28% (compared to VRV III)
- No more cold draughts with variable refrigerant temperature and continuous heating
- Single point of contact for the design and maintenance of your climate system
- Integrated system, combining air conditioning, hot water, ventilation, etc. allows maximum heat recovery and energy efficiency
- > Multiple systems can be managed in exactly the same way for the key accounts
- Dedicated after-sales service to ensure fast on-site support

## Installers

Daikin VRV IV sets the standard with state-of-the-art technology and time-saving commissioning and servicing.

- Simplified and time-saving commissioning with VRV configurator
- > Remote refrigerant containment check
- Unique range of single and multi BS boxes reduce installation time
- Wide range of outdoor units (up to 54HP both for heat pump and heat recovery)
- > One supplier = one point of contact
- > Maximum flexibility to meet customer requirements
- > Customised training to maximise expertise

# VRV IV outdoor unit products overview



## VRV IV heat recovery

- Fully integrated solution with heat recovery for maximum efficiency with COPs of up to 8!
- Covers all thermal needs of a building via single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- > 'Free' heating and hot water through heat recovery
- Perfect personal comfort for guests/tenants via simultaneous cooling and heating
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature and continuous heating
- > Unique range of single- and multi BS boxes



#### VRV IV heat pump

- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- Can be connected to stylish indoor units (Daikin Emura, Nexura)
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature and continuous heating



# Replacement VRV IV

- Cost-effective and fast replacement through re-use of existing piping
- > Up to 40% more efficient than R-22 systems
- No interuption of daily business while replacing your system
- Replace Daikin and other manufacturers' systems safely
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature



RWEYQ-T

#### **VRV IV** W-series

## Water cooled VRV IV

- Reduces CO<sub>2</sub> emissions by using geothermal energy as an energy source
- Geothermal mode eliminates need for an external heating or cooling source
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- Compact and lightweight design can be stacked for maximum space saving
- Incorporates VRV IV standards and technologies such as variable refrigerant temperature
- Variable water flow control option increases flexibility and control

#### **Outdoor units**

# Products overview **VRV**

				4	5	6	8	10	12	13		10	10	20	22	24			30
VRV IV heat recovery	Best efficiency & comfort solution         > Fully integrated solution with heat recovery for maximum efficiency         > Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains         > "Free" heating and hot water through heat recovery         > The perfect personal comfort for guests/tenants via simultaneous cooling and heating         > Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature and continuous heating         > Allows technical cooling         > Widest range of BS boxes on the market	REYQ-T YRY IV					•	•	•	•	•	•	•	•	•	•	•	•	•
VRV IV heat pump with continuous heating	Daikin's optimum solution with top comfort         > Continuous heating during defrost         > Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains         > Connectable to stylish indoor units (Daikin Emura, Nexura)         > Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature and continuous heating	RYYQ-T <b>YRY IV</b>					•	•	•		•	•	•	•	•	•	•	•	•
VRV IV heat pump without continuous heating	<ul> <li>Daikin's solution for comfort &amp; low energy consumption</li> <li>Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains</li> <li>Connectable to stylish indoor units (Daikin Emura, Nexura)</li> <li>Incorporates VRV IV standards &amp; technologies such as Variable Refrigerant temperature</li> </ul>	RXYQ-T(9) <b>VRV IV</b>					•	•	•		•	•	•	•	•	•	•	•	•
VRVIII-S	Space saving solution without compromising on efficiency > For residential and light commercial applications > Space saving design > Either connect VRV of stylish indoor units (Daikin Emura, Nexura)	RXYSQ- P8V1/P8Y1	00	•	•	•													
VRVIV-S A	Space saving solution without compromising on efficiency Space saving trunk design for flexible installation Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units and Biddle air curtains Either connect VRV of stylish indoor units (Daikin Emura, Nexura) Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature	launch autumn 2015 RXYSQ-TV1/TY1 YRY IV S-series	00	•	•	•	•	•	•										
VRVIV-S series Compact	The most compact VRV Compact and lightweight single fan design saves space and is easy to install Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units and Biddle air curtains Either connect VRV of stylish indoor units (Daikin Emura, Nexura) Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature	launch autumn 2015 RXYSCQ-TV1 YRY IV S-series Compact	0	•	•														
VRV III heat pump, optimised for heating	Where heating is priority without compromising on efficiency           > Suitable for single source heating           > Extended operation range down to -25°C in heating           > Stable heating capacity and high efficiencies at low ambient temperatures	RTSYQ-PA ✔₩₽¥₩₽C						•			•	•		•					
VRV Classic	Classic VRV configuration <ul> <li>For standard cooling &amp; heating requirements</li> <li>Connectable to VRV indoor units, controls and ventilation</li> </ul>	RXYCQ-A					•	•	•		•	•	•	•					
heatrecovery	Quick & quality replacement for R-22 and R-407C systems         > Cost-effective and fast replacement through re-use of exisiting piping         > Up to 40% more efficient than R-22 systems         > No interuption of daily business while replacing your system         > Replace Daikin and other manufacturers systems safely	RQCEQ-P* VRVIII-Q						•		•		•	•	•	•	•	•	•	•
heat pump	Quick & quality replacement for R-22 and R-407C systems         > Cost-effective and fast replacement through re-use of exisiting piping         > Up to 80% more efficient than R-22 systems         > No interuption of daily business while replacing your system         > Replace Daikin and other manufacturers systems safely         > Incorporates VRV IV standards & technologies such as         Variable Refrigerant temperature	RXYQQ-T* VRV IV Q-series			•		•	•	•		•	•	•	•	•	•	•	•	•
Water cooled VRV IV	Ideal for high rise buildings, using water as heat source         > Reduced CO2 emissions thanks to the use of geothermal energy as a renewable energy source         > No need for an external heating or cooling source when used in geothermal mode         > Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains         > Compact & lightweight design can be stacked for maximum space saving         > Incorporates VRP IV standards & technologies such as Variable Refrigerant temperature         > Variable Water Flow control option increases flexibility and control	RWEYQ-T* <b>¥R¥ IV</b> W-series	1				•	•				•	•	•		•	•	•	•
	Water cooled VRV IV heat pump heatrecovery VRV Classic pump, optimised series revealed VRV IV heat pump vrout continuous vertices revealed verti	<ul> <li>The information of the information of</li></ul>	<ul> <li>The perfect percent according for guests the anis via simultaneous cooling and the perfect percent of the perfect percent per</li></ul>	<ul> <li>The prefect previous controls for guests/tensits via simultaneous cooling and impact the presence of the presence of</li></ul>	<ul> <li>The perfect general control for guest femantics but simultaneous cooling and perfect general control for guest femantics but simultaneous cooling and perfect general control for guest femantics but simultaneous cooling and perfect general control for guest femantics but simultaneous cooling and perfect general cooling and genetic cooling and general cooling and general cooling and gener</li></ul>	1       The prefet period control for the general value and use of a solution of a solutin of a solutin of a solutin of a solution of a solution	The perfect general contort for genetic features value insultances cooling and general sector objects with a discrimination of the general sector objects with a discrimination of the general sector object sector object sector objects with a discrimination of the general sector object sector o	9       The perfect personal context for gastistic matter via smuthaneous cooling and given in the second sec	a The perfect personal control for guestitements will annutance cooling and inclusion of the perfect personal control for guestitements will annutance cooling and inclusion.       Image perfect personal control for guestitements will annutance cooling and inclusion.         b The perfect personal control for guestitements will annut and continues heating.       Image perfect personal control for guestitements will annut and continues heating.         b The perfect personal control for guestitements will annut and continues heating.       Image perfect personal control for guestitements will annut and continues heating.         b Control control for guestitements will annut and continues heating.       Image perfect personal control for guestitements will annut and continues heating.         b Control control for guestitements will annut annut and continues heating.       Image perfect personal control for guestitements.         b Control control for guestitement and continues heating.       Image perfect personal control for guestitements.         b Control control for guestitement and continues heating.       Image perfect personal control for guestitements.         c Control control for guestitement and continues of the source and control control control.       Image perfect personal control contro	1       The perfect period control for gradiest control is annutanceus cooling and gradiest is an intervention of the gradiest control is annutanceus cooling and gradiest is an intervention of the gradiest control is annutanceus cooling and gradiest is an intervention of the gradiest control is annutanceus cooling and gradiest is an intervention of the gradiest control is annutanceus cooling and gradiest is an intervention of the gradiest control is annutanceus cooling and gradiest is annutanceus cooling annutanceus cooling and gradiest is annutanceus cooling annutanceus coolingradiestanceus cooling annot annutanceus cooling annut	a The prefer prevent content for generity means of analytic sectors of the prevent	The prime prima prime prima prima prima prima prima prima p	Image: Descent and the operation of the spectra and the spectra	a margin base of the particle derivative of the market	In The project dimension of any of	Image: Project product or control for graduations of a contract of graduations of a control for graduation of a control for graduations of a control for graduation of graduation of graduation of graduatia control for graduation of graduatia control fo	Image: Process of the second control for the guardee back with a second control of the second control	Image: Program and Program andeprogram andeprogramandeprogram and Program andeprogram andeprogr	1       The performance and the system tests to unusuance controp and the performance and the system tests to unusuance controp and the system tests to the system tests to the system tests to the performance and the system tests to the system tests to the system tests to the system tests to the system tests to the system tests to the system tests to the system tests to the system tests to the system tests to the system test test to the system test to the system test to the system t

Multi combination

32	34	36	38	40	42	44	46			city (F		-1	Description / Combination	VRV indoor units	Indoor units	LT Hydrobox HXY-A	HT Hydrobox HXHD-A	HRV units VAM-, VKM-	AHU connection EKEXV- + EKEQMCB	AHU connection EKEXV- + EKEQFCB	Air curtains CYV-DK-	Remarks
													VRV IV Heat Recovery REYQ-T	Ó	×	0	0	0	0	×	0	ī Standard total system connection ratio limit: 50 ~ 130%
													with only VRV indoor units	$\checkmark$								
													with LT/HT Hydroboxes	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$				ī Max 32 indoor units, even on 16HP and larger systems ī Total system connection ratio up to 200% possible
													HRV units VAM-, VKM-	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	
•	•	•	•	•	•	•	•	•	•	•		•	AHU connection EKEXV + EKEQMCB	$\checkmark$				$\checkmark$	$\checkmark$		$\checkmark$	ī Dedicated systems (with only ventilation units) not allowed – a mix with standard VRV indoor units is allways neccessary
													Biddle air curtain CYV-DK-	$\checkmark$				$\checkmark$	$\checkmark$		$\checkmark$	
													VRV IV Heat Pump RYYQ-T / RXYQ-T(9)	0	0	0	x	0	0	0	0	ī Standard total system connection ratio limit: 50 ~ 130%
													with only VRV indoor units	$\checkmark$								ī 200% total system connection ratio possible under special circumstances
												-	with residential indoor units	$\checkmark$	$\checkmark$			$\checkmark$				ī Only single-module systems (RYYQ 8~20 T / RXYQ 8~20 T)
٠	•	•	•	•	•	•	•	•	•	•		• +	with LT Hydroboxes	$\checkmark$		✓		$\checkmark$				i Max 32 indoor units, even on 16HP, 18HP and 20HP systems i Max 32 indoor units, even on 16HP and larger systems
	_											-	HRV units VAM-, VKM-	$\checkmark$	$\checkmark$	✓		$\checkmark$	$\checkmark$		$\checkmark$	î Contact Daikin in case of multi-module systems (>20HP)
												+	AHU connection EKEXV + EKEQMCB	•				• •	• •		•	
												-	AHU connection EKEXV + EKEQFCB					•		$\checkmark$	•	
٠	•	•	•	•	•	•	•	•	•	•		• +	Biddle air curtain CYV-DK-	$\checkmark$				$\checkmark$	✓	•	$\checkmark$	
	_										$\vdash$	_	VRV III-S Mini VRV RXYSQ-P8	0	0	x	x	0	0	x	0	ī Standard total system connection ratio limit: 50 ~ 130%
												-	with VRV indoor units	<b>∪</b>	•			<b>∪</b>	<b>∪</b>		<b>∪</b>	
												-	with Split indoor units		$\checkmark$							ī Total system connection ratio in terms of VRV indexes: 56 ~ 145%
	_										T		VRV IV-S Mini VRV	0	0	x	x	0	0	x	0	i Standard total system connection ratio limit: 50 ~ 130%
												ł	with VRV indoor units	$\checkmark$				$\checkmark$	$\checkmark$		$\checkmark$	
												-		•				-	-		•	ī Total system connection ratio in terms
												_	with Split indoor units		$\checkmark$							of VRV indexes: 56 ~ 145%
													VRV IV-S Mini VRV	0	0	×	x	0	0	x	0	ī Standard total system connection ratio limit: 50 ~ 130%
													with VRV indoor units	$\checkmark$				$\checkmark$	$\checkmark$		$\checkmark$	
													with Split indoor units		$\checkmark$							$\tilde{i}$ Total system connection ratio in terms of VRV indexes: 56 $\sim$ 145%
													VRV III Cold Region RTSYQ-PA	√	x	x	x	~	~	x	✓	ī Standard total system connection ratio limit: 50 ~ 130%
													VRV Classic RXYCQ-A	√	x	x	x	~	x	x	x	ī Standard total system connection ratio limit: 50 ~ 120% ī In case of using at least one FXFQ20~25 indoor units on 8HP or 10HP models, the maximum connection ratio is 100%.
													<b>VRV III-Q Replacement H/R</b> RQCEQ-P	√	x	x	x	✓	x	x	x	ī Standard total system connection ratio limit: 50 ~ 130%
•	•	•	•	•	•								<b>VRV IV-Q Replacement H/P</b> RXYQQ-T	~	×	×	×	~	~	×	~	ī Standard total system connection ratio limit: 50 ~ 130%
													<b>VRV IV-W Water-cooled VRV</b> RWEYQ-T	~	×	×	×	✓	✓	×	✓	ī Standard total system connection ratio limit: 50 ~ 130%

O ... connection of indoor unit possible, but not neccessarily simultaneously with other allowed indoor units ... connection of indoor unit possible even simultaneously with other checked units in the same row x ... connection of indoor not possible on this outdoor unit system

#### Indoor units

# Products overview **VRV**

Capacity class (kW)

	Model		oduct name	15	20	25	32 4	40 5	0 63	5 71	80	100	125	140	200
	UNIQUE Round flow cassette	<ul> <li>360° air discharge for optimum efficiency and comfort</li> <li>Auto cleaning function ensures high efficiency</li> <li>Intelligent sensors save energy and maximize comfort</li> <li>Flexibility to suit every room layout</li> <li>Lowest installation height in the market!</li> </ul>	FXFQ-A		•	•	•	•	•		•	•	•		
	UNIQUE Fully flat cassette	Unique design that integrates fully flat into the ceiling > Perfect integration in standard architectural ceiling tiles > Blend of iconic design and engineering excellence > Intelligent sensors save energy and maximize comfort > Small capacity unit developed for small or well-insulated rooms > Flexibility to suit every room layout	FXZQ-A	•	•	•	•	•							
5	2-way blow ceiling mounted cassette	Thin, lightweight design installs easily in narrow ceiling spaces         > Depth of all units is 620mm, ideal for narrow ceiling spaces         > Flexibility to suit every room layout         > Reduced energy consumption thanks to DC fan motor         > The flaps close entirely when the unit is not operating         > Optimum comfort with automatic air flow adjustment to the required load	FXCQ-A		•	•	•	•	•		•		•		
	Ceiling mounted corner cassette	<ul> <li>1-way blow unit for corner installation</li> <li>Compact dimensions enable installation in narrow ceiling voids</li> <li>Flexible installation thanks to different air discharge options</li> </ul>	FXKQ-MA			•	•	•	•						
	Small concealed ceiling unit	Designed for hotel rooms           > Compact dimensions enable installation in narrow ceiling voids         > Discretely concealed in the ceiling: only the grilles are visible           > Flexible installation as the air suction direction can be altered from rear to bottom suction         > Discretely concealed in the ceiling: only the grilles are visible	FXDQ-M9		•	•									
	Slim concealed ceiling unit	Slim design for flexible installation > Compact dimensions enable installation in narrow ceiling voids > Medium external static pressure up to 44Pa > Only grilles are visible > Small capacity unit developted for small of well-insulated rooms > Reduced energy consumption thanks to DC fan motor	FXDQ-A	•	•	•	•	•	•						
I	NEW Concealed ceiling unit with medium ESP	Slimmest yet most powerfull medium static pressure unit on the market!           > Slimmest unit in class, only 245mm           > Low operating sound level           > Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths           > Automatic air flow adjustment function measures the air volume and static pressure and adjusts it towards the nominal air flow, guaranteeing comfort	FXSQ-A	•	•	•	•	•			•	•	•	•	
	Concealed ceiling unit with high ESP	ESP up to 200, ideal for large sized spaces > Optimum comfort guaranteed no matter the length of ductwork or type of grilles, thanks to automatic air flow adjustment > Reduced energy consumption thanks to DC fan motor > Flexible installation as the air suction direction can be altered from rear to bottom suction	FXMQ-P7						•		•	•	•		
	Concealed ceiling unit with high ESP	ESP up to 270, ideal for extra large sized spaces > Only grilles are visible > Large capacity unit: up to 31.5 kW heating capacity	FXMQ-MA9												•
	Concealed ceiling unit with high efficiency	For the highest energy efficiency         > Automatic air flow adjustment function guarantees comfort         > Easy installation in narrow ceilings (245mm height)         > High external static pressure up to 270Pa facilitates using flexible ducts of varying lengths         > Only the suction and discharge grilles are visible	FXTQ-A						•		•	•			
	Wall mounted unit	For rooms with no false ceilings nor free floor space Flat, stylish front panel is more easy to clean Small capacity unit developted for small of well-insulated rooms Reduced energy consumption thanks to DC fan motor The air is comfortably spread up- and downwards thanks to 5 different discharge angles	FXAQ-P	 •	•	•	•	•	•						
-	Ceiling suspended unit UNIQUE	For wide rooms with no false ceilings nor free floor space <ul> <li>Ideal for comfortable air flow in wide rooms thanks to Coanda effect</li> <li>Rooms with ceilings up to 3.8m can be heated or cooled very easily!</li> <li>Can easily be installed in both new and refurbishment projects</li> <li>Can even be mounted in corners or narrow spaces without any problem</li> <li>Reduced energy consumption thanks to DC fan motor</li> </ul>	FXHQ-A				•		•			•			
)	4-way blow ceiling suspended unit	Unique Daikin unit for high rooms with no false ceilings nor free floor space > Rooms with ceilings up to 3.5m can be heated up or cooled down very easily! > Can easily be installed in both new and refurbishment projects > Flexibility to suit every room layout > Reduced energy consumption thanks to DC fan motor	FXUQ-A							•		•			
)	Floor standing unit	For perimeter zone air conditioning         > Can be installed in front of glass walls or free standing as both the front and the back are finished         > Ideal for installation beneath a window         > Requires very little installation space         > Wall mounted installation facilitates cleaning beneath the unit	FXLQ-P		•	•	•	•							
)	NEW Concealed floor standing unit	Ideal for installation in offices, hotels and residential applications         > Discretely concealed in the wall, leaving only the suction and discharge grilles visible         > Can even be installed underneath a window         > Requires very little installation space as the depth is only 200mm         > High ESP allows flexible installation	FXNQ-A		•	•	•	•							

(1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m (2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m 22



# Stylish indoor units OVErview

Depending on the application, Split and Sky Air indoor units can be connected to our VRV IV and VRV III-S outdoor units. Refer to the **outdoor unit portfolio** for combination restrictions.

p	for complitation restrictions							Capa	city clas	s (kW)	күүд-т	RXYQ-T(9)	RXYSQ-P8V1³	RXYSQ-P8Y1³
Туре	Model	Product name	15	20	25	35	42	50	60	71	RYY	RXY	RXY	RXY
Ceiling mounted	Round flow cassette (incl. auto-cleaning function <sup>1</sup> )	FCQG-F				•		•	•				$\checkmark$	~
cassette	Fully flat	FFQ-C			•	•		•	•				~	~
	Small concealed ceiling unit	FDBQ-B			•								$\checkmark$	$\checkmark$
Concealed ceiling	Slim concealed ceiling unit	FDXS-F(9)			•	•		•	•				$\checkmark$	$\checkmark$
	Concealed ceiling unit with inverter-driven fan	FBQ-D				•		•	•				$\checkmark$	$\checkmark$
	Daikin Emura Wall mounted unit	FTXG-LW/LS		•	•	•		•			$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Wall mounted	Wall mounted unit	CTXS-K FTXS-K	 •	•	•	•	•	•			~	~	~	~
	Wall mounted unit	FTXS-G							•	•	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Ceiling suspended	Ceiling suspended unit	FHQ-C				•		•	•				$\checkmark$	$\checkmark$
	Nexura floor standing unit	FVXG-K			•	•		•			~	~	~	~
Floor standing	Floor standing unit	FVXS-F			•	•		•			$\checkmark$	$\checkmark$	~	$\checkmark$
	Flexi type unit	FLXS-B(9)			•	•		•	•		~	$\checkmark$	$\checkmark$	$\checkmark$

<sup>1</sup> Decoration panel BYCQ140CG + BRC1E52A/B needed

 $^{\scriptscriptstyle 2}$  To connect stylish indoor units a BPMKS unit is needed

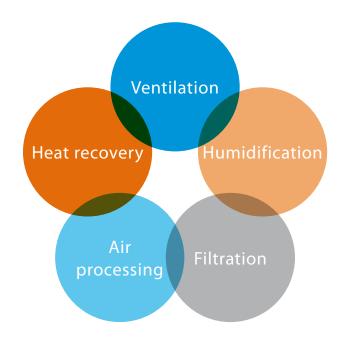
<sup>3</sup> For RXYSQ units a mix of RA indoor units and VRV indoor units is not allowed.

Connectable outdoor unit

# Ventilation range

# Five components of indoor air quality

- > Ventilation: ensures the provision of fresh air
- Heat recovery: recovers heat and moisture from the outgoing air to maximise comfort and efficiency
- Air processing: heats or cools incoming fresh air maximising comfort and minimizing the load on the air conditioning installation
- > **Humidification:** optimises the balance between indoor and outdoor humidity
- > **Filtration:** removes dust, pollution and odours from the air



Туре	Product name	Model	0 2	200	400	600	800	1,0	00 2,	000	4,000	6,000	8,000	140,0	000 Components of indoor air quality
	VAM-FA/FB	Ventilation with heat recovery as standard           > Energy saving ventilation           > Maximise floor space for furniture, decoration and fittings           > Free cooling           > Reduced energy consumption thanks to DC inverter fan motor           > Optional CO, sensor saves energy while improving indoor air quality													> Ventilation > Heat recovery
Heat reclaim ventilation	VKM-GB	Pre heating or cooling of fresh air for lower load on the air conditioning system           > Energy saving ventilation           > Creates a high quality indoor environment           > Maximise floor space for furniture, decoration and fittings           > Free cooling           > Reduced energy consumption thanks to DC inverter fan motor													• Ventilation • Heat recovery • Air processing
	VKM-GBM	Pre heating, cooling and humidification for optimum comfort           > Energy saving ventilation           > Creates a high quality indoor environment           > Balance your indoor humidity level           > Maximise floor space for furniture, decoration and fittings           > Free cooling													<ul> <li>Ventilation</li> <li>Heat recovery</li> <li>Air processing</li> <li>Humidification</li> </ul>
Air handling units	DX total fresh air package	Fully customised solution for ventilation and air handling           > Inverter technology           > Heat pump and heat recovery           > Provides virtually free heating           > Room temperature via Dakin control           > Large range of expansion valve kits											**		<ul> <li>&gt; Ventilation</li> <li>&gt; Heat recovery</li> <li>&gt; Air processing</li> <li>&gt; Humidification</li> <li>&gt; Filtration</li> </ul>

\* Air flow rate is a calculated indication only, based on the following values: heating capacity EKEXV-kit \* 200m<sup>3</sup>/h

\*\* Daikin AHU connected to Daikin chiller solution

# Additional options

## Biddle air curtain range

Туре	Product name	
Biddle air curtain free hanging	CYV S/M/L-DK-F	
Biddle air curtain cassette	CYV S/M/L-DK-C	
Biddle air curtain recessed	CYV S/M/L-DK-R	-

#### Air curtain size selector

Door height (m)



revolving door entrance

Hydrobox range

little direct wind, building with ground floor only

#### > A payback time of less than 1.5 years compared to electrical air curtains

- > Easy and quick installation
- > Maximum energy efficiency thanks to rectifier technology
- > 85% air separation efficiency
- > Cassette model (C): mounted into a false ceiling leaving only the decoration panel visible
- > Free-hanging model (F): easy wall mounted installation
- > Recessed model (R) : neatly concealed in the ceiling

Capacity class (kW)

					capacity class (iiii)
Туре	Product name	Model	80	125	Leaving water temperature range
Low temperature hydrobox	НХҮ-А	<ul> <li>For high efficiency space heating and cooling</li> <li>&gt; Ideal for hot or cold water in underfloor, air handling units, low temperature radiators</li> <li>&gt; Hot/cold water from 5° to 45°C</li> <li>&gt; Large operation range (down to -20°C and up to 43°C)</li> <li>&gt; Fully integrated water-side components save time on system design</li> <li>&gt; Space saving contemporary wall hung design</li> </ul>	•	•	5 °C - 45 °C
High temperature hydrobox	HXHD-A	<ul> <li>For efficient hot water production and space heating</li> <li>&gt; Ideal for hot water in bathrooms, sinks and for underfloor heating, radiators, air handling units,</li> <li>&gt; Hot water from 25 to 80°C</li> <li>&gt; "Free" heating and hot water through heat recovery</li> <li>&gt; Uses heat pump technology to produce hot water efficiently, providing up to 17% savings compared to a gas boiler</li> <li>&gt; Possibility to connect thermal solar collectors</li> </ul>		•	25 °C - 80 °C

or open stairwell

# Network solutions

Туре		ITC	ITM	DMS-IF	BACNET
C	Layout screen		•		
Screen	Touch screen		•		
	Mini BMS for heating, air conditioning applied systems and refrigeration units (BACnet and WAGO)		•		
Integration	3rd party equipment integration (BACnet and WAGO)		•		
	Basic control functions: on/off, temp, setting, air flow sttings	•	•	•	•
	Refrigerant containment check		•		
	Temperature limitation	•	•		
<b>C</b>	Setback		•		
Control	Automatic changeover	•	•		
	Weekly schedule and special day pattern	•	•		
	Timer extension		•		
	Forced off	•	•	•	•
	Basic control functions: ON/OFF status, operation mode, set point temp.	•	•	•	•
	Filter status	•	•	•	•
Monitoring	Malfunction code	•	•	•	•
	History (operation, malfunction)	•	•		
	Visualisation	•	•		
	PPD	•	•		•
Options	Web access and control	•	Std		
	HTTP option	•			
	Interlock	•	•		
	Pre-cool/heat		•		
<b>.</b>	Sliding temperature		•		
Other	Free cooling	•	•		
	ACNSS connection Air Conditionning Network Service System	•	•	•	•
	Maximum indoor unit groups	64	2560	64	4x64



In 2015 our successful Mini VRV range gets a thorough update to make it even better suited for light commercial applications where space is limited and performance expectations are high.



- > Variable Refrigerant Temperature
- Connect a wide range of up to 9 indoor units: either connect VRV or stylish indoor units (Daikin Emura, Nexura, ...)
- > All indoor units can be individually controlled
- Connects to all VRV control, ventilation, air handling units and Biddle air curtains
- > Space saving design
- > More flexibility through extension of the range



- > The most compact VRV
- Low height resulting in minimum visual impact
- Lightweight reduces installation time and manpower to an absolute minimum
- > Available in single phase



4-5-6-8-10-12 HP

- Available in single phase and three phase
- Extended range with 8, 10 and 12 HP unit for bigger applications with space limitations (expected end of 2015)



## **VRV IV heat recovery**

Outdoor system				REYQ	8T		10T	12	2T	14T	1	16T	18T		20T
Capacity range				HP	8	. (8)	10	12		14		16	18		20
Cooling capacity	Nom.			kW	22.4 (1)		28.0 (1) (2)	33.5 (		40.0 (1) (2)		) (1) (2)	50.4		56.0
Heating capacity	Nom. Max.			kW kW	22.4 (3		28.0 (3) (4) 31.5	33.5 (3		40.0 (3) (4) 45.0		0 (3) (4) 50.0	50.4 56.5		56.0 63.0
Power input - 50Hz	Cooling	Nom.		kW			7.15 (1) / 6.19 (2			45.0 10.7 (1) / 9.61			15.2		18.6
rowerinput 50112	Heating	Nom.		kW			5.29 (3) / 5.47 (4			9.60 (3) / 9.37			12.3		14.9
		Max.		kW	5.51		7.38	9.4		11.3		2.9	14.3		17.5
EER							8.92 (1) / 4.52 (2	2) 3.63 (1) /			(2) 3.52 (1)	/ 3.79 (2)	3.32		3.01
COP - Max.					4.54		4.27		3.98			.88	3.95		3.60
COP - Nom.							1.45 (3) / 5.12 (4						4.10		3.76
ESEER Maximum number of	f connectable indee	rupito			7.41		7.37	6.8	54	7.05	6	5.63	6.26		5.68
Indoor index connection		runits			100/200	/260	125/250/325	150/30	0/300	175/350/455	5 200//	100/520	225/450/5	85 250	0/500/650
Dimensions	Unit	HeightxWid	thxDepth	mm	100/200		1.685x930x76		0,350	175/550/45	200/	1,685x1,2		250	0/300/030
Weight	Unit			kg	210			218		304	3	305		337	
Fan	Air flow rate	Cooling	Nom.	m³/min	162		175	18	35	223	2	260	251		261
Sound power level	Cooling	Nom.		dBA	78		79		81			86			88
Sound pressure level	Cooling	Nom.		dBA		58			61			64	65		66
		Night	Level 1	dBA	56		58	58		58		58	60		60
		Quiet	Level 2	dBA	55		54	54		52		52	52		52
0	<b>c</b> "	Mode	Level 3	dBA	53		52	52	2	47		47	48		48
Operation range	Cooling	Min.~Max.		°CDB						-5.0~43.0					
Refrigerant	Heating Type / GWP	Min.~Max.		°CWB						-20~15.5 R-410A / 2,08	75				
Reingerant	Charge			kg/TCO.	9.7/20	0.2	9.8/20.5	9.9/2		R-410A / 2,06	7.5	11.8/2	24.6		
Piping connections	Liquid	OD		mm	9.1/20	9.52		5.5/2	20.7	12.7		11.0/2	1.0	15.9	
riping connections	Gas	OD		mm	19.1		22.2			12.7	2	28.6		1515	
	Discharge gas	OD		mm	15.9			19.1				22.2			28.6
	Total piping length	System	Actual	m						1,000					
Power supply	Phase/Frequency			Hz/V					3	3N~/50/380-	415				
Current - 50Hz	Maximum fuse an	nps (MFA)		A	20			25		32		40	J		50
Outdoor system				REYQ	10T	13T	16T	18T	20T	22T	24T	26T	28T	30T	32T
System	Outdoor unit moo					NQ5T		REYQ8T		REYQ10T	REYQ8T		REYQ12T	DEVOID	REYQ16T
Capacity range	Outdoor unit moo	ule 2		HP	REMQ5T 10	13 R	EYQ8T 16	REYQ10T 18	20 RE	YQ12T 22	REYQ16T	REYQ14T 26	REYQ16T	REYQ18T	REYQ16T
Cooling capacity	Nom.			kW	28.0	36.4	44.8	50.4	55.9	61.5	24 67.4	73.5	28 78.5	30 83.9	32 90.0
Heating capacity	Nom.			kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5	78.5	83.9	90.0
ricuting cupucity	Max.			kW	32.0	41.0	50.0	56.5	62.5	69.0	75.0	82.5	87.5	94.0	100.0
Power input - 50Hz	Cooling	Nom.		kW	6.34	8.48	10.62	12.46	14.54	16.38	18.11	19.93	22.03	24.43	25.6
•	Heating	Nom.		kW	5.42	7.46	9.50	11.04	12.80	14.34	15.95	17.65	19.25	20.35	22.4
		Max.		kW	6.50	8.76	11.02	12.89	14.94	16.81	18.41	20.73	22.33	23.73	25.8
EER					4.42	4.29	4.22	4.04	3.84	3.75	3.72	3.69	3.56	3.43	3.52
COP - Max.					4.92	4.68	4.54	4.38	4.18	4.10	4.07	3.98	3.92	3.96	3.88
COP - Nom.					5.17	4.88	4.72	4.57	4.37	4.29	4.23	4.16	4.08	4.12	4.02
ESEER - Automatic					7.77	7.54	7.41	7.38	7.06	7.07	6.87	6.95	6.72	6.48	6.63
ESEER - Standard Maximum number of	f connoctable indee	- unite			6.55	6.36	6.25	5.98	5.68	5.54 64	5.46	5.41	5.23	5.03	5.14
Indoor index	Min.	runits			125	162.5	200	225	250	275	300	325	350	375	400
connection	Nom.				250	325.0		450	500	550	600	650	700	750	800
connection	Max.				325	422.5		585	650	715	780	845	910	975	1,040
Piping connections	Liquid	OD		mm	9.52		12.7			15.9				9.1	
	Gas	OD		mm	22.2			28.6					34.9		
	Discharge gas	OD		mm	1	9.1		2.2				28.6			
	Total piping length	System	Actual	m			500						000		
Current - 50Hz	Maximum fuse an	nps (MFA)		Α			40			50			53		80
Continuous heating										v					
<b>a</b> . I				DEVO	2.47			407	407			407			
Outdoor system	0.11			REYQ	34T	36T	38T	40T	42T	44T	46T	48T	50T	52T	54T
System	Outdoor unit moo Outdoor unit moo				REYQ18T	Q16T	REYQ8T	Q12T	Q10T	REYQ12T	REYQ14T REYQ16T		REYQ16T	DEV	REYQ18T Q18T
	Outdoor unit mod				RETUINT	- NETQ20		Q121 Q18T			REYQ16T				(018T
Capacity range		uie 5		HP	34	36	38	40	42	44	46	48	50	52	54
Cooling capacity	Nom.			kW	95.4	101.0	106.3	111.9	118.0	123.5	130.0	135.0	140.4	145.8	151.2
Heating capacity	Nom.			kW	95.4	101.0	106.3	111.9	118.0	123.5	130.0	135.0	140.4	145.8	151.2
	Max.			kW	106.5	113.0	119.0	125.5	131.5	137.5	145.0	150.0	156.5	163.0	169.5
Power input - 50Hz	Cooling	Nom.		kW	28.0	31.4	29.74	31.58	32.75	34.83	36.3	38.4	40.8	43.2	45.6
	Heating	Nom.		kW	23.5	26.1	25.10	26.64	28.69	30.45	32.00	33.6	34.7	35.8	36.9
<b>FED</b>		Max.		kW	27.2	30.4	29.24	31.11	33.18	35.23	37.1	38.7	40.1	41.5	42.9
EER COP - Max.					3.41	3.22	3.57	3.54	3.60	3.55	3.58	3.52	3.44	3.38	3.32
COP - Max. COP - Nom.					3.92 4.06	3.72 3.87	4.07	4.03 4.20	3.96 4.11	3.90	3.91	3.88 4.02	3.90 4.05	3.93 4.07	3.95 4.10
ESEER - Automatic					6.43	6.06	6.66	6.68	6.79	6.68	6.75	6.63	6.49	6.37	6.26
ESEER - Standard					4.97	4.70	5.25	5.20	5.28	5.20	5.23	5.14	5.03	4.93	4.84
Maximum number of	f connectable indoo	r units								64					
Indoor index	Min.				425	450	475	500	525	550	575	600	625	650	675
connection	Nom.				850	900	950	1,000	1,050	1,100	1,150	1,200	1,250	1,300	1,350
	Max.				1,105	1,170	1,235	1,300	1,365	1,430	1,495	1,560	1,625	1,690	1,755
Piping connections	Liquid	OD		mm						19.1	_				
	Gas	OD		mm	34.9					41					
	Discharge gas	OD	A	mm	2	8.6				1000	34.9				
Current - 50Hz	Total piping length Maximum fuse an	System	Actual	M		80			100	1,000			125		
Continuous heating	waximum ruse an	ips (INII'A)		A		00		1	100	v	I		120		
										•					
Outdoor unit modu	ile			REMQ						5T					
Dimensions	Unit	HeightxWi	dthxDenth	mm						1,685x930x76	55				
Weight	Unit			kg						210					
	Air flow rate	Cooling	Nom.	m³/min						162					
Fan				dBA						77					
Fan	Cooling	Nom.		ubA											
Fan Sound power level Sound pressure level	Cooling	Nom.		dBA						56					
Fan Sound power level	Cooling Cooling	Nom. Min.~Max.		dBA °CDB						-5.0~43.0					
Fan Sound power level Sound pressure level Operation range	Cooling Cooling Heating	Nom.		dBA						-5.0~43.0 -20~15.5					
Fan Sound power level Sound pressure level	Cooling Cooling Heating Type / GWP	Nom. Min.~Max.		dBA °CDB °CWB					F	-5.0~43.0 -20~15.5 R-410A / 2,08	7.5				
Fan Sound power level Sound pressure level Operation range Refrigerant	Cooling Cooling Heating Type / GWP Charge	Nom. Min.~Max. Min.~Max.		dBA °CDB °CWB kg/TCO,Eq						-5.0~43.0 -20~15.5 R-410A / 2,08 9.7/20.2					
Fan Sound power level Sound pressure level Operation range	Cooling Cooling Heating Type / GWP	Nom. Min.~Max. Min.~Max. /Voltage		dBA °CDB °CWB						-5.0~43.0 -20~15.5 R-410A / 2,08					

Charge Phase/Frequency/Voltage Maximum fuse amps (MFA) (1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (2) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (2) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 0°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (4) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (4) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series. (4) Nominal heating capacities are based on: indoor unit type (VRV indoor, Hydrobox, RA indoor, etc.) and the connection ratio restriction for the system (50% <= CR <= 130%)</p>

#### RYYQ-T / RXYQ-T

Outdoor system			R	YQ/RXYQ	8T/8T9		10T		12T	14T		16T		18T	20T
Capacity range	Nom			HP	8	(2)	10	0 (2)	12	14 40.0 (1) / 40.0 (2)	45.0 (1	16		18	20 56.0 (1)
Cooling capacity	Nom.			kW kW	22.4 (1) / 22.4		28.0 (1) / 28.		33.5 (1) / 33.5 (2)			) / 45.0 (2)		50.4 (1)	
Heating capacity	Nom.					0 (4)			33.5 (3) / 33.50 (4)			) / 45.0 (4)		50.4 (3)	56.0 (3)
	Max.	News		kW	25.0 (3)	(2)	31.5 (3)		37.5 (3)	45.0 (3)		0.0 (3)		56.5 (3)	63.0 (3)
Power input - 50Hz	Cooling	Nom.		kW kW	5.21 (1) / 4.47		7.29 (1) / 6.3		8.98 (1) / 8.09 (2)			/ 12.10 (2)		15.0 (1)	18.5 (1)
	Heating	Nom. Max.		kW		(4)				9.52 (3) / 9.30 (4)		) / 9.8 (4) .8 (3)		12.6 (3)	14.5 (3) 17.0 (3)
EER		IVIAX.		KVV	5.51 (3) 4.30 (1) / 5.01	(2)	7.38 (3) 3.84 (1) / 4.4		9.10 (3) 3.73 (1) / 4.14 (2)	11.2 (3) 3.64 (1) / 4.05 (2)		.8 (3) ) / 3.73 (2)		14.6 (3) 3.36 (1)	3.03 (1)
ESEER - Automatic					7.53	(2)	7.20	-5 (Z)	6.96	6.83		5.50		6.38	5.67
ESEER - Standard					6.37		5.67		5.50	5.31		5.05		4.97	4.42
COP - Max.					4.54 (3)		4.27 (3)		4.12 (3)	4.02 (3)		91 (3)		3.87	3.71
COP - Max. COP - Nom.						(4)				4.02 (3) 4.30 (4)				4.00	3.86
Maximum number o	f connectable indoc	or units			4.72 (3) 7 3.01	(4)	4.43 (3) / 3.1	2 (4)	4.31 (3) / 3.08 (4)	64 (5)	4.05 (5	//4.39(4)		4.00	3.80
Indoor index connection	Min./Nom./Max.	i units			100/200/26	50	125/250/3	25	150/300/390	175/350/455	200/	400/520	22	5/450/585	250/500/650
Dimensions	Unit	HeightyWi	dthxDepth	mm	100/200/20	50	1.685x930x		150/300/390	1/3/330/433	200/-	1,685x1,			230/300/030
Weight	Unit	TheightXWI	unixDeptii	kg	243		1,00575507	252	2		56	1,00571,	2407.	391	
Fan	Air flow rate	Cooling	Nom.	m³/min	162		175	2.52	185	223	1	260		251	261
Sound power level	Cooling	Nom.	NOIII.	dBA	78		79			31			6	231	88
Sound pressure level	Cooling	Nom.		dBA	,,,	58				51		64		65	66
Operation range	Cooling	Min.~Max.		°CDB		50			<b>`</b>	-5~43		01		05	
operation range	Heating	Min.~Max.		°CWB						-20~15.5					
Refrigerant	Туре	WITH. WIGA.		CWD						R-410A					
nemgerant	Charge			kg	5.9		6		6.3	10.3		10.4		11.7	11.8
	Charge			tCO₂eq	12.3		12.5		13.2	21.5		21.7		24.4	24.6
	GWP			icO <sub>2</sub> eq	12.3		12.5		13.2	2,087.5		21.7		24.4	24.0
Diping connections	Liquid	OD				9.5	2			2,087.5				15.9	
Piping connections		OD		mm	19.1	9.5	2 22.2			12./		28.6		15.9	
	Gas Total nining longth		Act!	mm	19.1	[	22.2			1000		20.0			
Power cupply	Total piping length	System	Actual	m Hz/V						1,000					
Power supply	Phase/Frequency/				20	1	25	-		3N~/50/380-415	,		-0		50
Current - 50Hz	Maximum fuse arr	ips (IVIFA)		A	20	[	25			32	1	4	U		50
<b>0</b>				010 0000			T/0 /=-								207/
Outdoor system		1.1.4	R	YQ/RXYQ	22T	24	T/24T9	26T		30T	32T		BAT	36T	38T/38T9
System	Outdoor unit mod				10T		8T		12T				16T		8T
	Outdoor unit mod				12T		16T	14T	16T	18T	16T	1	18T	20T	10T
	Outdoor unit mod	Jule 3				-				-					20T
Capacity range				HP	22		24	26	28	30	32		34	36	38
Cooling capacity	Nom.			kW	61.5		67.4	73.5		83.9	90.0		95.4	101.0	106.3
Heating capacity	Nom.			kW	61.5		67.4	73.5		83.9	90.0		95.4	101.0	106.3
	Max.			kW	69.0		75.0	82.5		94.0	100.0		06.5	113.0	119.0
Power input - 50Hz	Cooling	Nom.		kW	16.27		18.2	20.0		24.0	26.0		8.0	31.5	29.2
	Heating	Nom.		kW	14.06	1	15.85	17.29	18.87	20.4	22.2	2	23.7	25.6	25.1
		Max.		kW	16.48		18.31	20.30	21.90	23.7	25.6	2	27.4	29.8	29.2
EER					3.77		3.70	3.68	3.57	3.5	3.46		3.4	3.21	3.6
ESEER - Automatic					7.07		6.81	6.89	6.69	6.60	6.50	6	.44	6.02	6.36
ESEER - Standard					5.58		5.42	5.39	5.23	5.17	5.05	5	5.01	4.68	5.03
COP - Max.					4.19		4.10	4.06	j	4.00	3.91		3.9	3.79	4.1
COP - Nom.					4.37		4.25		4.16	4.1	4.05	4	4.0	3.95	4.2
Maximum number o	f connectable indoc	or units			1					64					
Indoor index connection	Min./Nom./Max.				275/550/715	300	/600/780 3	25/650/	845 350/700/91	0 375/750/975	400/800/1	040 425/8	350/1,10	05 450/900/1,170	475/950/1,23
Piping connections	Liquid	OD		mm	15	5.9					19.1				
	Gas	OD		mm	28.6	1				34.9					41.3
	Total piping length	System	Actual	m	1					1,000					
Current - 50Hz	Maximum fuse am			A	i		63					80			100
Outdoor system			B)	YO/RXYO	40T		42T		44T -	46T 48	2T	50T		52T	54T
System	Outdoor unit mod	tule 1			401	10T	721			14T		16T		521	18T
System	Outdoor unit mod				12T					16T		101		18	
	Outdoor unit mod				12T				16T	101	1			18T	,1
Capacity range		iule 5		HP	40	-	42			46 4	0	50		52	54
Cooling capacity	Nom.			kW	111.9		118.0			40 4 30.0 135		140.0		145.8	151.2
Looling capacity Heating capacity	Nom. Nom.			kW kW	111.9		118.0			30.0 13: 30.0 13:		140.0		145.8	151.2
incoming capacity	Max.			kW kW	125.5		131.5			45.0 150		140.0		145.8	151.2
Power input - 50Hz	Cooling	Nom.		kW kW	31.3		33.3			45.0 ISO 37.0 39		40.7		43.0	45.0
i owei input - suriz	Heating	Nom.		kW kW	26.7		28.49			s7.0 39 \$1.72 33		34.6		36.3	45.0 37.8
	reating	Max.		kW kW	31.1		32.98			36.8 38		40.0		42.0	43.8
EER		ινιαλ.		ĸvv	31.1			.54		3.51 3.4		3.44		3.4	43.8 3.40
ESEER - Automatic					6.74		6.65			5.60 6.		6.46		5.4 6.42	6.38
ESEER - Automatic					5.29		5.19			5.13 5.0		5.02		4.99	4.97
COP - Max.					4.0		3.99			3.94 3. <sup>1</sup>		5.02		3.90	4.7/
COP - Max. COP - Nom.					4.0		4.14			4.10	4.0	15	1		.0
	f connectable in d-				4.2		4.14		7.12	4.10 64	4.0	5		4.	, <b>U</b>
Maximum number of	f connectable indoo Min./Nom./Max.	n units			500/1000/100	0 5	5/1050/1265	EE0/4	1100/1 /20 575 /4		0/1540	675/1 750/1	625	650/1 200/1 600	675/1 250/1 755
Indoor index connection					200/1,000/1,30	v   52	1,000/ 1,305 וו וכ	JOU/	1,100/1,430 575/1		U0(1,30U	023/1,250/1,	,020	650/1,300/1,690	1,350/1,/55
Piping connections	Liquid	OD OD		mm						19.1					
	Gas Total sizing langth	OD Custom	A = ! . !	mm						41.3					
	Total piping length	System	Actual	m						1,000					
Current - 50Hz	Maximum fuse arr	ips (MFA)		A			1	00					12	2	
												_			
Outdoor unit modu				RYMQ	8T		10T		12T	14T		16T		18T	20T
Dimensions	Unit	Height/Wi	dth/Depth	mm		,	1,685/930/					1,685/1,	240/7		
Weight	Unit			kg	188			195			09			319	
Fan	Air flow rate	Cooling	Nom.	m³/min	162		175		185	223		260		251	261
Sound power level	Cooling	Nom.		dBA	78		79			31		8	6		88
Sound pressure level	Cooling	Nom.		dBA		58				51		64		65	66
Operation range	Cooling	Min.~Max.		°CDB						-5~43					
Operation range	Heating	Min.~Max.		°CWB						-20~15.5					
Operation range				20											
· · ·										R-410A					
· · ·	Туре			ka	5.9		6		63	R-410A 10.3	· ·	10.4		11.7	11.8
· ·				kg tCO-eq	5.9		6		6.3 13.2	10.3		10.4		11.7	11.8 24.6
· · ·	Type Charge			kg tCO₂eq	5.9 12.3		6 12.5		6.3 13.2	10.3 21.5		10.4 21.7		11.7 24.4	11.8 24.6
Refrigerant	Type Charge GWP	Voltage		tCO₂eq						10.3 21.5 2,087.5	:				
Refrigerant Power supply	Type Charge GWP Phase/Frequency/			tCO2eq Hz/V	12.3		12.5		13.2	10.3 21.5 2,087.5 3N~/50/380-415	:	21.7	0		24.6
Refrigerant	Type Charge GWP			tCO₂eq					13.2	10.3 21.5 2,087.5	:	21.7	0		

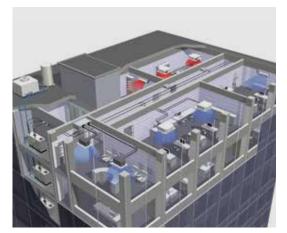
(1) Nominal cooling capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $19^{n}CWB$ , outdoor temperature:  $35^{n}CDB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series, (2) Nominal cooling capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $19^{n}CWB$ , outdoor temperature:  $35^{n}CDB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (2) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $10^{n}CWB$ , outdoor temperature:  $7^{n}CDB$ ,  $6^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for standard efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series, (4) Nominal heating capacities are based on: indoor temperature:  $2^{n}CDB$ ,  $0^{n}CWB$ , equivalent refrigerant piping: 5m, level difference: 0m. Data for high efficiency series,  $(50^{n} < < CR < = 130^{n})$  [The STANDARD ESEER value corresponds w

# Replacement VRV IV heat pump

Outdoor unit				RXYQQ	8T	10		12T		14T		16T	18T	20T
Capacity range				HP	8	10		12		14		16	18	20
Cooling capacity	Nom.			kW	22.4	28	.0	33.5		40.0		45.0	50.0	56.0
Heating capacity	Nom./Max.			kW	22.4/25.0	28.0/	31.5	33.5/37	7.5 4	0.0/45.0	45	5.0/50.0	50.0/56.0	56.0/63.0
Power input - 50Hz	Cooling	Nom.		kW	5.21	7.2	9	8.98		11.0		13.0	14.7	18.5
	Heating	Nom./Max		kW	4.75/5.51	6.29/	7.38	7.77/9.1	10 9	.52/11.2	1	1.1/12.8	12.4/14.4	14.5/17.0
EER					4.30	3.8	34	3.73		3.64		3.46	3.40	3.03
ESEER					6.37(1)/7.53(	(2) 5.67(1)/	7.20(2)	5.50(1)/6.9	96(2) 5.31	(1)/6.83(2)	5.05	(1)/6.50(2)	4.97(1)/6.38(2)	4.42(1)/5.67(2)
СОР					4.72/4.54			4.31/4.		.20/4.02		05/3.91	4.03/3.89	3.86/3.71
Maximum number of	connectable indoo	r units								64(3)				
Indoor index connection	Min./Nom./Max.				100/200/26	60 125/25	0/325	150/300/	390 175	/350/455	200	/400/520	225/450/585	250/500/650
Dimensions	Unit	HeightxWi	dthxDepth	mm		1,685x9						1,685x1,2		
Weight	Unit	neightxin	a and optim	kg	261	1,005,15	268	2		3/	54	1,005/(1/2	39	18
Fan	Air flow rate	Cooling	Nom.	m³/min	162	17		185		223		260	251	261
Sound power level	Cooling	Nom.	Nom.	dBA	78	79		105	81	225		86		88
	-				/6		9							
Sound pressure level	Cooling	Nom.		dBA		58			61	5 43		64	65	66
Operation range	Cooling	Min.~Max.		°CDB						-5~43				
	Heating	Min.~Max.		°CWB						20~15.5				
Refrigerant	Type / GWP									0A / 2,087.5				
	Charge			kg/TCO <sub>2</sub> Eq	5.9/12.3	6.0/	12.5	6.3/13	.2 1	0.3/21.5	10	).4/ 21.7	11.7/ 24.4	11.8/24.6
Piping connections	Liquid	OD		mm		9.52				12.7			15	.9
	Gas	OD		mm	19.1	22	.2					28.6		
	Total piping length	System	Actual	m						1,000				
Power supply	Phase/Frequency	/Voltage		Hz/V					3N~/	50/380-415				
Current - 50Hz	Maximum fuse an			А	20	2	5		32			40	)	50
											_			
Outdoor system				RXYQQ	22T	24T		26T	28T	30	Т	32T	34T	36T
System	Outdoor unit moo				10	8			12				16	
	Outdoor unit mod	dule 2			12	16		14	16	18		16	18	20
Capacity range				HP	22	24		26	28	30	)	32	34	36
Cooling capacity	Nom.			kW	61.5	67.4		73.5	78.5	83.	5	90.0	95.0	101.0
Heating capacity	Nom./Max.			kW	61.5/69.0	67.4/75.0	) 73	.5/82.5	78.5/87.5	83.5/	93.5	90.0/100.0	95.0/106.0	101.0/113.0
Power input - 50Hz	Cooling	Nom.		kW	16.27	18.2		20.0	22.0	23.		26.0	27.7	31.5
	Heating	Nom./Max.		kW	14.06/16.48	15.85/18.3		9/20.30	18.87/21.90			22.2/25.6		25.6/29.8
EER	incuting	Norm,/Max	•	KW	3.77	3.70		3.68	3.57	3.5		3.46	3.43	3.21
ESEER					5.58(1)/7.07(2)			1)/6.89(2)	5.23(1)/6.69(			5.05(1)/6.50		
COP														
					4.37 / 4.19	4.25 / 4.1	0 4.2	5/4.06	4.16 / 4.00		3.98	4.05 / 3.9	4.04/3.90	3.95 / 3.79
Maximum number of		runits								64(3)	_			150
Indoor index	Min.				275	300		325	350	37		400	425	450
connection	Nom.				550	600		650	700	75		800	850	900
	Max.				715	780		845	910	97	5	1,040	1,105	1,170
Piping connections	Liquid	OD		mm		15.9					19	9.1		
	Gas	OD		mm	28.6					34.9				41.3
	Total piping length	System	Actual	m						1,000				
Current - 50Hz	Maximum fuse an			А			63						80	
Outdoor system				RXYQQ	38T	40T	42T							
System	Outdoor unit mod	dule 1			8	10	10							
	Outdoor unit mod	dule 2			10	12	16							
	Outdoor unit mod	dule 3			20	18	16							
Capacity range				HP	38	40	42							
Cooling capacity	Nom.			kW	106.0	111.5	118.0	)						
Heating capacity	Nom./Max.			kW	106.4/119.5	111.5/125.0	118.0/13							
Power input - 50Hz	Cooling	Nom.		kW		1.0	33.3							
. Swei input - Sullz	-	Nom./Max		kW	25.54/29.89	1	28.49/32							
EED	Heating	NUM./Max.	•	ĸvv		26.46/30.88								
EER					3.42	3.61	3.54							
ESEER					5.03(1)/6.36(2)	5.29(1)/6.74(2)	5.19(1)/6.6							
COP					4.17 / 4.00	4.21/4.05	4.14 / 3.	.99						
Maximum number of		r units				64(3)								
Indoor index	Min.				475	500	525							
connection	Nom.				950	1,000	1,050	)						
	Max.				1,235	1,300	1,365	5						
Piping connections	Liquid	OD		mm		19.1								
-	Gas	OD		mm		41.3								
	Total piping length	System	Actual	m		1,000								
		System	/			1,000								
Current - 50Hz	Maximum fuse an	ame (MEA)		А		100								

(1) The STANDARD ESEER value corresponds with normal VRV IV heat pump operation, not taking into account advanced energy saving operation functionality (2) The AUTOMATIC ESEER corresponds with normal VRV IV heat pump operation, taking into account the advanced energy saving functionality (variable refrigerant temperature) (3) Actual number of indoor units depends on the indoor unit type (VRV indoor, hydrobox, RA indoor, etc) and the connection ratio restriction for the system (50%  $\leq$  CR  $\leq$  130%) (4) Not Eurovent certified Contains fluorinated greenhouse gases

## VRV IV water cooled series





Standard operation

Geothermal operation

Outdoor unit				RWEYQ	8T	10T	16T	18T	20T	24T	26T	28T	30T
System	Outdoor unit mod	dule 1			RWEYQ8T	RWEYQ10T	RWE	YQ8T	RWEYQ10T		RWEYQ8T		RWEYQ101
	Outdoor unit mod	dule 2				-	RWEYQ8T	RWE	YQ10T	RWE	YQ8T	RWE	YQ10T
	Outdoor unit mod	dule 3					-			RWEYQ8T		RWEYQ10T	
Capacity range				HP	8	10	16	18	20	24	26	28	30
Cooling capacity	Nom.			kW	22.4	28.0	44.8	50.4	56.0	67.2	72.8	78.4	84.0
Heating capacity	Nom.			kW	25.0	31.5	50.0	56.5	63.0	75.0	81.5	88.0	94.5
Power input - 50Hz	Cooling	Nom.		kW	4.42	6.14	8.8	10.6	12.3	13.3	15.0	16.7	18.4
	Heating	Nom.		kW	4.21	6.00	8.4	10.2	12.0	12.6	14.4	16.2	18.0
EER					5.07	4.56	5.07	4.77	4.56	5.07	4.86	4.69	4.56
СОР					5.94	5.25	5.94	5.53	5.25	5.94	5.65	5.43	5.25
Maximum number o	f connectable indoo	or units							36				
Indoor index	Min.				100	125	200	225	250	300	325	350	375
connection	Nom.				200	250	400	450	500	600	650	700	750
	Max.				260	325	520	585	650	780	845	910	975
Dimensions	Unit	HeightxW	idthxDepth	mm	1,000x7	780x550				-			
Weight	Unit			kg	1.	37				-			
Fan	Air flow rate	Cooling	Nom.	m³/min					-				
Sound power level	Cooling	Nom.		dBA					-				
Sound pressure level	Cooling	Nom.		dBA	50	51	53		54		55		56
Operation range	Inlet water	Cooling	Min.~Max.	°CDB					10~45				
	temperature	Heating	Min.~Max.	°CWB					-10~45				
Refrigerant	Type / GWP								R-410A/2,087.	5			
	Charge		k	g/TCO <sub>2</sub> Eq	3.5/7.3	4.2/8.8				-			
Piping connections	Liquid	OD		mm	9.	.52	12.7		15.9			19.1	
	Gas	OD		mm	19.10 (1)	22.2 (1)		28.6 (1)			34.	9 (1)	
	Discharge gas	OD		mm	15.9 (2) / 19.10 (3)	19.1 (2) / 22.10 (3)	22	.2 (2) / 28.60	) (3)		28.6 (2) /	34.90 (3)	
	Water	Inlet/Outl	et				PT	11/4B interna	al thread/PT11/4	B internal thre	ad		
	Total piping length	System	Actual	m					300				
Power supply	Phase/Frequency			Hz/V					3N~/50/380-4	15			
Current - 50Hz	Maximum fuse an	nps (MFA)		A	2	20		32			5	50	

(1) In case of heat pump system, gas pipe is not used (2) In case of heat recovery system (3) In case of heat pump system (4) Not Eurovent certified Contains fluorinated greenhouse gases

## **BS1Q-A** Individual branch selector – VRV IV heat recovery

Indoor unit				BS	1Q10A	1Q16A	1Q25A
Power input	Cooling	Nom.		kW		0.005	
	Heating	Nom.		kW		0.005	
Maximum number o	f connectable indo	oor units			5		8
Maximum capacity i	ndex of connectab	le indoor units			15 < x ≤ 100	100 <x≤160< td=""><td>160<x≤250< td=""></x≤250<></td></x≤160<>	160 <x≤250< td=""></x≤250<>
Dimensions	Unit	HeightxWid	dthxDepth	mm		207x388x326	
Weight	Unit			kg	1	2	15
Casing	Material					Galvanised steel plate	
Piping connections	Outdoor unit	Liquid	Type/OD	mm		Brazing connection/9.5	
		Gas	Type/OD	mm	Brazing con	nection/15.9	Brazing connection/22.2
		Discharge gas	Type/OD	mm	Brazing con	nection/12.7	Brazing connection/19.1
	Indoor unit	Liquid	Type/OD	mm		Brazing connection/9.5	
		Gas	Type/OD	mm	Brazing con	nection/15.9	Brazing connection/22.2
Sound absorbing the	ermal insulation				Foam	ed polyurethane Flame-resistant ne	edle felt
Power supply	Phase/Frequenc	y/Voltage		Hz/V		1~/50/220-240	
Total circuit	Maximum fuse a	mps (MFA)		A		15	

## **BS-Q14A** Multi branch selector – VRV IV heat recovery

Indoor unit				BS	4Q14A	6Q14A	8Q14A	10Q14A	12Q14A	16Q14A
Power input	Cooling	Nom.		kW	0.043	0.064	0.086	0.107	0.129	0.172
	Heating	Nom.		kW	0.043	0.064	0.086	0.107	0.129	0.172
Maximum number o	f connectable indo	oor units			20	30	40	50	60	64
Maximum number o	f connectable indo	or units per br	anch				5	5		
Number of branches	;				4	6	8	10	12	16
Maximum capacity i	ndex of connectab	le indoor units			400	600		7	50	
Maximum capacity i	ndex of connectab	le indoor units	per branch				14	0		
Dimensions	Unit	HeightxWid	dthxDepth	mm	298x370x430	298x5	80x430	298x8	20x430	298x1,060x430
Weight	Unit			kg	17	24	26	35	38	50
Casing	Material						Galvanised	steel plate		
Piping connections	Outdoor unit	Liquid	OD	mm	9.5	12.7	12.7 / 15.9	15.9	15.9 / 19.1	19.1
		Gas	OD	mm	22.2 / 19.1	28.6 / 22.2	28.6	28.6	/ 34.9	34.9
		Discharge gas	OD	mm	19.1 / 15.9	19.1 / 22.2	19.1 / 22.2 / 28.6		28.6	
	Indoor unit	Liquid	OD	mm			9.5 /	6.4		
		Gas	OD	mm			15.9 /	/ 12.7		
	Drain						VP20 (I.D. 2	20/O.D. 26)		
Sound absorbing the	ermal insulation						Urethane foam, p	olyethylene foam		
Power supply	Phase/Frequenc	y/Voltage		Hz/V			1~/50/2	20-440		
Total circuit	Maximum fuse a	mps (MFA)		Α			1:	5		

## BSVQ-P9B Individual branch selector – Water cooled VRV IV heat recovery

Indoor unit				BSVQ	100P9B	160P9B	250P9B		
Power input	Cooling	Nom.		kW		0.005			
	Heating	Nom.		kW		0.005			
Maximum number o	f connectable indo	oor units			6		8		
Maximum capacity i	ndex of connectab	le indoor units	5		15 < x ≤ 100	100 <x≤160< td=""><td>160<x≤250< td=""></x≤250<></td></x≤160<>	160 <x≤250< td=""></x≤250<>		
Dimensions	Unit	HeightxWi	dthxDepth	mm		207x388x326			
Weight	Unit			kg	1.	2	15		
Casing	Material					Galvanised steel plate			
Piping connections	Outdoor unit	Liquid	Type/OD	mm		Brazing connection/9.5			
		Gas	Type/OD	mm	Brazing con	nection/15.9	Brazing connection/22.2		
		Discharge gas	Type/OD	mm	Brazing connection/12.7	Brazing connection/12.7	Brazing connection/19.1		
	Indoor unit	Liquid	Type/OD	mm		Brazing connection/9.5			
		Gas	Type/OD	mm	Brazing connection/15.9	Brazing connection/15.9	Brazing connection/22.2		
Sound absorbing the	ermal insulation				Foam	ed polyurethane Flame-resistant need	dle felt		
Power supply	Phase/Frequenc	y/Voltage		Hz/V		1~/50/220-240			
Total circuit	Maximum fuse a	mps (MFA)		A	15				

## BSV4Q-PV/BSV6Q-PV Multi branch selector – Water cooled VRV IV heat recovery

Indoor unit			BSV4Q-PV/BS	SV6Q-PV	4Q100PV	6Q100PV	
Power input	Cooling	Nom.		kW	0.020	0.030	
	Heating	Nom.		kW	0.020	0.030	
Maximum number o	f connectable indo	oor units			24	36	
Maximum number o	f connectable indo	oor units per br	anch			6	
Number of branches					4	6	
Maximum capacity i	ndex of connectab	le indoor units			400	600	
Maximum capacity i	ndex of connectab	le indoor units	per branch		100		
Dimensions	Unit	HeightxWi	dthxDepth	mm	209x1,053x635	209x1,577x635	
Weight	Unit			kg	60	89	
Casing	Material				Galvanised	l steel plate	
Piping connections	Outdoor unit	Liquid	Type/OD	mm	Brazing connection/12.7	Brazing connection/15.9	
		Gas	Type/OD	mm	Brazing con	nection/28.6	
		Discharge gas	Type/OD	mm	Brazing connection/19.1	Brazing connection/28.6	
	Indoor unit	Liquid	Type/OD	mm	Brazing cor	nection/9.5	
		Gas	Type/OD	mm	Brazing con	nection/15.9	
Sound absorbing the	ermal insulation				Foamed polyurethane Fl	ame-resistant needle felt	
Power supply	Phase/Frequenc	y/Voltage		Hz/V	1~/50/2	220-240	
Total circuit	Maximum fuse a	mps (MFA)		А	1	5	

# **VRVIV** Heat Recovery

# 360° efficiency

installation efficiency

design efficiency

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